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(5)

CIRRHOSS OF THE PANCREAS; OR PANCREATIC ANÆMIA.*

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The occurrence of four cases of chronic inflammation of the pancreas in three years, all occurring in private practice, has led me to review the literature on the subject, and to give considerable thought to this particular disease.

That diseases of this organ are rare, probably no one will deny, and although it is possible that affections of the pancreas may occur somewhat more frequently than we now suppose, their diagnosis must, for obvious reasons, always be difficult.

Bartholow says that so little is definitely known of diseases of the pancreas that many systematic works omit the subject entirely.

Aitkin, in his large work, does not speak of disease of this organ.

Hartshorne, editing Watson, devotes about fifteen lines to the consideration of the subject.

Flint and Wood have short articles, and Da Costa bases the brief remarks he makes in his work upon forty-five cases which he has collected from all sources. I have looked through scores of bound volumes of journals without finding an allusion to diseases of the pancreas. For anything like a comprehensive description of diseases of this organ, we are obliged to go to Ziemssen.

Case 1.—In November, 1880, I was called to see Mr. Elwood Ewing, an American by birth, sixty-five years of age, a contractor and builder by profession. He had always been strictly temperate, had never had syphilis, and he came from an ancestry who were remarkable for longevity. Up to within a few months he had never been sick.

* Reprinted from the Transactions of the Thirty-fourth Annual Meeting of the Illinois State Medical Society, 1884.



During the latter part of 1880, however, he commenced to emaciate, and, applying to a neighboring physician, he was given a prescription for some malarial trouble. During these weeks he had not cared to eat meat, but preferred milk, mush and oatmeal. He became very weak, very greatly emaciated, and, at my first visit, I noticed particularly his white, anæmic look. I gave him a very thorough examination, extending it through two or three visits.

There was nothing abnormal as regards his nervous system. His intellect was perfectly clear, and the only symptom referable to his head was a constant and continual roaring or noise within the brain. His lungs were without a trace of disease, but he complained of being short of breath on account of his great weakness. An anæmic murmur was heard with the first sound of his heart. The only point upon his entire body where pain or soreness was experienced upon pressure was at the epigastrium. He complained of thirst, and was occasionally sick at the stomach. There was no enlargement of any organ, and his urine was perfectly free from abnormal deposits. His legs were slightly swollen. His stools were black and thin, and occasionally contained small lumps of blood and mucus. I was not able to learn that there were fatty particles passed with the evacuations from the bowels. His pulse was 100, and he had no fever. The most marked symptom was his extreme white color. His tongue was white, not coated, but anæmic, and his lips were without a particle of color. There was not the faintest tinge of yellow in the conjunctiva. I was unable to diagnosticate the case, but believed he was suffering from some disease of nutrition—the organ affected, however, I could not determine. I treated him a few days with tonics, mineral acids, strychnia and a generous diet. There was no improvement, however, and Dr. N. S. Davis was called to see the case with me in consultation. There was no difference of opinion, and neither of us attempted to give a name to the disease. It appeared to us both that in some part of the digestive apparatus there was a very serious

disease, which in all probability would cause death. He died one month after I made my first visit, having, however, passed into the hands of another professional gentleman. In company with this gentleman, a homœopathic physician, I made the post-mortem. There was nothing unusual to be seen in any of the principal organs of his body, excepting the very marked whiteness of all the tissues, and not until I had removed nearly the entire viscera within the abdomen, and came upon a white, indurated pancreas did I find the seat of the disease.

The gross and microscopical appearance of this organ are given by Dr. S. J. Holmes, lecturer on Pathological Histology in Rush Medical College. "Pancreas contracted; consistency abnormal; fibrous to the touch; color white. Under the microscope the connective tissue is extensively augmented, with obliteration of certain glandular vesicles, and atrophy of others induced by pressure of the newly formed connective tissue, as it contracted at its maturity. There was a slight fatty degeneration of the parenchyma of the kidney."

Case 2.—Mr. S. K. Reed, fifty-seven years of age, was a gentleman who had been connected with the printing and publishing establishments of this city for years. He was known among his associates as a most powerful and healthy man. Some two years ago he commenced to fail in strength, and yet up to within two months of his death he continued to transact business.

I saw him January 1, 1882. I learned at that time that about twelve years ago he had an extensive eczema, and that he had been troubled with hemorrhoids for five or six years; that he had what is known as a bilious attack one year ago, and had been troubled with indigestion for some years. In February, 1882, considerable blood escaped from the rectum, and even then every passage was attended with very great pain and some blood. He had lost about sixty pounds of flesh. The color of his skin was very white, almost yellow, and yet the conjunctiva was perfectly white; his

pulse, respiration and temperature perfectly natural. He complained principally of the pain which he experienced upon passage of the bowels, and a slight sickness at his stomach when food was taken, with a feeling of weariness and a consciousness that he was continually losing flesh. He did not like meat of any kind, or eggs. He had been under the care of several physicians, who, in the main, had promised a cure. It was diagnosticated by one as "severe physical and nervous prostration."

During the month of January he was treated with pancreatin, pepsin, and the mineral acids, and at his visit made February 6 he said he had gained six pounds since he came under my care. He was having, however, alternate diarrhœa and constipation. His color was no better, but he did not complain of quite as much pain upon the passage of his bowels. During all this time, his pulse and temperature were natural; the pulse, if anything, was a trifle slow,—fifty-five at times. About this time, in a conversation I had with him, he asked me the direct question, and pressed me for an answer, as to whether I could assure him a cure. After considerable hesitancy, and only after repeated solicitations upon his part, I told him that I was very much afraid that he had some disease of a nature that would ultimately cause his death. That was the last time I prescribed for him; the case passed to the care of those who could make a more favorable promise.

June 26, I made him a non-professional visit. He was then being treated by rubbing, and was assured that in the course of a few days he would be greatly improved. His pulse was 78, temperature only $97\frac{1}{2}$, appetite poor. His bowel difficulty was entirely removed, and the pain which he formerly experienced had ceased. He ascribed the cure of this particular symptom to a root syrup with molasses injections. All the pain and soreness which he now experienced was in the epigastrium, just below the end of the ensiform cartilage. He was expectorating a large amount of mucus, and had at various times vomited something which his attendants de-

scribed as looking like fat. About ten weeks previous to this visit he vomited a large amount of coagulated blood. This hemorrhage continued for some eight hours, and the quantity escaped was estimated to have been about two pounds,—of course it being mixed with saliva and other secretions. At this visit it appeared to me that the patient certainly was failing, and that a final result was liable to take place any time. He was still hopeful, however, and was encouraged by his attendants. He died four days after.

In the presence of Drs. R. N. Foster and Cashman, his former medical advisers, and Mr. J. D. Waller and the writer, Drs. Graham and Haven made the autopsy.

In compliance with the wish of his friends, the abdomen only was opened. There was considerable fat between the integument and the abdominal muscles, but nothing abnormal as regarded position of any of the viscera. The whiteness of the tissues, so marked at the autopsy of Mr. Ewing, were also present in this case. With this exception, nothing pathological was found until the pancreas was reached. This organ was hard, evidently enlarged, and filled with white spots, plainly seen with the eye. The colon was, perhaps, somewhat contracted in its caliber in some places; but in the rectum, where so much pain was experienced up to a short time before his death, there was absolutely no trace of disease. There was no abrasion in the continuity of the mucous membrane of the stomach, and the hæmatemesis, which was so profuse a few days before his death, was caused by pressure of the enlarged head of the pancreas on some blood-vessel, or it may have been from minute capillaries upon the mucous surface of the stomach.

The microscopical examination was made by Prof. Marie J. Mergler, Woman's Medical College, and resulted as follows: "The pancreas measured 9 inches in length; its breadth was $2\frac{1}{2}$ at the head and 2 at the lesser extremity, and it was 1 inch in thickness. The whole organ was denser than normal, and its surface presented numerous yellowish-white spots, from $\frac{1}{4}$

to $\frac{1}{2}$ inch in diameter. These light portions were considerably harder than the rest of the organ. On microscopic examination, an increased amount of connective tissue was found throughout the organ, especially in the lighter-colored portions."

Case 3.—This case took place in the practice of Dr. Joseph Haven, who kindly furnishes me the following notes:

Was called to see Mrs. R. on November 18, 1883, to relieve, if possible, the nausea and vomiting of pregnancy. She is American by birth, of nervous temperament, aged thirty-six years, and has been married thirteen years. She has had two children, both of whom are living, and eight years ago one miscarriage, which was followed by some uterine disease. Aside from this she has always enjoyed comparatively good health. Three months ago menstruation ceased, and shortly after nausea and vomiting followed, for which she seeks relief.

She states that six weeks ago her appetite began to fail, and she has gradually lost flesh from that time, but aside from nausea, she has experienced no pain or inconvenience of any kind; and inasmuch as she has always become very much reduced during previous pregnancies, she has paid but little attention to this symptom.

I found the patient anæmic, much reduced in flesh, muscles flabby, and a general lack of vitality. Temperature normal, and physical examination elicits nothing aside from what would be caused by anæmia. The bowels are constipated.

I prescribed antacids, a laxative at bed-time, and a general course of tonics and stimulants, including iron, hypophosphites, cod liver oil, kumyss and sherry wine.

November 23.—Her husband called as directed, and reported that his wife's condition was much improved; the nausea is relieved, and the appetite is improving. She is ordered to continue the tonics and stimulants, and he is requested to report any change that should occur.

December 13.—Was called in the night and found patient in critical condition; extremely emaciated, respiration slow

and labored, radial pulse scarcely perceptible, extremities cold, breath very offensive, articulation difficult (due in part to a coexisting aphthæ), heavily coated tongue, sordes on the teeth. Husband states that she has been failing several days.

December 15.—Slight improvement. Has revived somewhat under the use of stimulants.

December 15.—Dr. Earle called in consultation. Find no symptoms, other than that of anæmia and prostration, and suggests the possibility of obscure internal complication, such as disease of the pancreas.

December 16.—Nourishment and stimulant by stomach and bowel give only temporary improvement.

December 17.—Death.

December 18.—Post-mortem. Uterus enlarged to the extent of three months pregnancy. All the other organs apparently normal, with the exception of the pancreas, which is hard and contracted, a portion of which is removed for microscopical examination.

In the history of this case from beginning to end, there has been a lack of symptoms other than a general failing of the powers of life. There has been no pain or other symptoms, to locate the trouble in any particular organ. An analysis of urine failed to establish renal complications. It is to be regretted that the character of the fœcal dejections could not be ascertained as to the presence of fat. There is no family history of scirrhus, constitutional or wasting disease.

The microscopical changes are described, and kindly furnished by Prof. Marie J. Mergler: "On microscopical examination the entire organ is found more or less altered. In some portions, the connective tissue between the acini is increased, and many of the gland cells have undergone fatty degeneration, in others the broad bands of connective tissue encroach considerably upon the glands, and in place of their large polyhedral cells are found small, irregular shrivelled bodies, evidently atrophied gland cells; and still other sec-

tions do not even present a trace of gland structure ; they consist entirely of connective tissue."

Case 4.—The subject of my fourth case was a lady twenty-one years of age, born in New York, and married during the early part of 1882. At that time she was robust, healthy, and had never experienced any sickness whatever. She gave birth to a child in May, 1883, and made an excellent convalescence. During her pregnancy she had the care of a consumptive husband, who died a few days after the birth of his child. The care, attention and anxiety connected with the sickness and death of her husband, in addition to the care which she was bestowing upon her child, made me very solicitous in regard to her health, and I examined her repeatedly for evidence of disease. About two months after the birth of the baby, she commenced to cough and emaciate. I suspected disease of the lungs, but a careful examination, repeated time after time, revealed no disease of this organ whatever. At the end of four weeks there was a great improvement in the cough, but at that time an extreme diarrhœa commenced, with considerable pain in the stomach. Those two symptoms troubled her more or less up to the time of her death. She had an extraordinary appetite, but never cared for fatty articles of food. During all these weeks she emaciated rapidly, and every organ accessible, by every means possible, was examined for evidences of disease. During the last four months of her life there was present the same whiteness in all the tissues which I had noticed in the other cases I have reported, and upon which I based my diagnosis. Of course the case changed hands, but Dr. Morgan, my successor, gave me every facility to conclude my history. Death took place March 15, 1884.

At the autopsy, not an organ of the body was sufficiently impaired to cause any disease, except the pancreas, which was hard and white, and the microscopic examination of which gave us the exact results which we found in the preceding three cases,—increased connective tissue and obliteration of the glandular apparatus.

I have come to believe that we have not, up to this time, paid as much attention to disease of this organ as we should; and that a considerable number of cases, which we have called pernicious anæmia, leucocythæmia, general debility, etc., may be due to chronic disease of the pancreas.

I have placed these cases on record, hoping to elicit inquiry and observation from other members of the profession.

We frequently see cases in practice, where there is very great emaciation, white color to all of the integument, showing want of blood corpuscles, and it may be that these changes are due, at least in some cases, to disease of the pancreas.

* "It has been regarded highly probable that the red corpuscles are produced by a gradual metamorphosis of corpuscular elements derived from the so-called cytogenic organs," such as the spleen, lymphatic glands, marrow of the bones, etc., etc. To this list should, it appears to me, be added the pancreas.

Anæmia with enlarged spleen is splenic anæmia; anæmia with hyperplasia of great numbers of lymphatic glands is leucamic lymphoma; and a malignant form of these last-named glands is malignant lymphoma, or Hodgkins' disease. To these should be added, if future observations demonstrate the correctness of my views, pancreatic anæmia, due to chronic inflammation of this organ, producing increased connective tissue and obliteration of gland cells.

† The functions of the pancreas, as now given by the latest authors of physiology, are as follows:

1. The pancreas digests and assists in the conversion of starch into sugar.

2. It assists in the digestion of albuminoid compounds. The organ is, as will be remembered, sometimes called the "abdominal salivary gland," and reasoning from analogy is it not possible that it may be disturbed somewhat, and in the

* Ziemssen, Vol. 16, p. 335.

† For the physiology, pathology and etiology of diseases of the pancreas, see article by the author in *Medical Record*, Nov. 8, 1884.

same diseases as the salivary glands in the mouth are disturbed?

The third case suggests a possible cause for one of the accidents following pregnancy.

I cannot find a single case in all the books to which I have had access, where exhaustion from the anæmia of pregnancy has been associated with disease of the pancreas.

The author of the article on "Diseases of the Pancreas" in Ziemssen's *Cyclopædia* makes this remark: "Pregnancy is believed by some others to predispose to this (pancreas) disease."

The entire subject is to me full of interest. Is it possible that we have here a disease which may sometimes progress to a certain extent, producing a chronic inflammation of part of the pancreas with destruction of its secreting substance, producing impaired nutrition with anæmia for years, or perhaps for the remainder of the life of the individual; or, if the disease goes on to the involvement of the entire organ, death from anæmia and exhaustion?

Does the unusual whiteness of certain individuals, which we notice as we meet them, and the exhaustion and failure of strength which they state to us are the principal symptoms which cause them to consult us (other symptoms of local disease being absent)—do these symptoms, I ask, come from the commencement of an inflammatory action in the organ which perhaps should be placed among the blood-producing glands?

Have we here an additional cause of lingering disease, exhaustion and death, which has hitherto escaped our notice? It is, as I have stated before, for the study of this question that I have called your attention to these cases.

Let us in the future, as opportunity presents itself, examine more closely this gland, and not, as has been stated by one of our ablest pathologists, remain one of the great throng of physicians who have never seen a pancreas.

CONCLUSIONS.

First, from the study of diseases of the pancreas which I have given up to this time, it appears to me that inflammations of this organ are more frequent than we had hitherto supposed.

Secondly, chronic inflammation of this gland is characterized by great loss of flesh, extreme whiteness of the tissues, and generally pain in the region of the affected organ. The appetite in some cases continues excellent, and the patient may take food until the hour of death. The pulse and temperature remain nearly normal. Among other symptoms, which may or may not be present, is the passage of fat from the bowel or its eructation from the stomach.

Thirdly, the pathological processes produce the organ hardened, connective tissue increased, glandular and secreting structure pressed upon or obliterated.

